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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,136	07/11/2003	Roger Lapuh	3239P107	4434

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EXAMINER
WONG, XAVIER S

ART UNIT	PAPER NUMBER
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/618,136	LAPUH ET AL.
	Examiner	Art Unit	
	Xavier Wong	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11th JUL 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 to 20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 to 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11th JUL 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *18th JAN 2005*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements submitted on 18th January 2005

has been considered by the Examiner and made of record in the application file.

Claim Objections

Claim **14** is objected to because of the following informalities: "...the

second message comprises <u>an</u> IP addres~~ses~~ of IP routing instances..."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims **1-3, 5-13** and **19** are rejected under 35 U.S.C. 102(e) as being

unpatentable by **Lapuh et al (U.S Pub 2003/0097470 A1).**

Consider claim **1, Lapuh et al** clearly show and disclose two aggregation

switches that are connected together by an Inter Switch Trunk so that the two

switches can operate as a single logical switch (paragraphs *0009-10*; figs. *1* & *2*) as the links are placed in a <u>forwarding</u> state and data can be sent over all active links <u>at all times</u> in <u>both</u> directions, which is <u>synchronization</u> taking place (paragraphs *0016, 0021* & *0084*).

Consider claim **2**, **Lapuh et al** clearly show and disclose the at least two aggregation switches that exchange messages <u>continuously</u> using SMLT redundancy so that if a single point of failure occurs it does not require a spanning tree topology change; therefore, <u>avoiding packet drops</u> due to protocol convergence, as packets/messages are rapidly forwarded to another device over a MLT to the destination (paragraphs *0008, 0024, 0026* & *0066*), which is essentially how RSMLT functions.

Consider claim **3**, **Lapuh et al** clearly show and disclose when an aggregation switch receives a packet from a port, the aggregation switch searches its MAC table for the destination MAC address. If the AS finds the destination MAC address in its MAC table, then the AS forwards the packet according to the MAC table entry; in other words, forwarding a MAC record (paragraphs *0046-47*).

Consider claim **5**, **Lapuh et al** clearly show and disclose the exchange of local MAC addresses among at least two aggregation switches, namely AS *E* and AS *F* (paragraphs *0038-41*).

Consider claim **6**, **Lapuh et al** clearly show and disclose the BPDU messages comprise of six bytes (48 bits) that are set to the MAC address that is assigned to a bridge, which routes to another aggregation switch (paragraph *0018-20*).

Consider claim **7**, **Lapuh et al** clearly show and disclose that if one of the two aggregation switches fails, then the working aggregation switch will continue the transmission using the BPDU values (from the failed switch) on SMLT links (paragraph *0024*; *abstract*).

Consider claim **8**, **Lapuh et al** clearly show and disclose SMLT links that connect the two aggregation switches continue helping the transfer of messages even in an event when the working aggregation switch takes over the task of the failed aggregation switch (paragraph *0024*; claims *23-25*).

Consider claim **9**, **Lapuh et al** clearly show and disclose a system wherein an aggregation switch that connects to another aggregation switch through an IST link and the switches comprise of logical ports (paragraphs *0009, 0014-16*; fig. *2*). An aggregation logic unit *220* inside each of the switches performs packet forwarding utilizing address table *240* and MAC addresses in the packets received (paragraphs *0079* & *0095*). **Lapuh et al** further disclose the two aggregation switches *E* and *F* learn MAC addresses from one another (paragraphs *0038-41*).

Consider claim **10, Lapuh et al** clearly show and disclose a system

wherein each of the two aggregation switches comprise an aggregation logic unit

and an address table with MAC records of the other switch, as well as logical

ports that connect to one another (paragraphs *0009, 0014-16, 0038-41, 0079 &*

0095; fig. 2).

Consider claim **11, Lapuh et al** clearly show and disclose a system

wherein aggregation switch *E* (AS *E*) learns a first MAC address *b1* from an edge

switch and sends the MAC address *b1* to aggregation switch *F* (AS *F*) through

IST link. AS *F*, therefore, obtained a second MAC address from AS *E* <u>once</u>

(paragraph *0038*). AS *E* learns MAC address *c1* from another edge switch and

sends the MAC address to AS *F* through an IST link again. AS *F*, therefore,

obtained a MAC address <u>twice</u> (paragraph *0039*).

Consider claim **12, Lapuh et al** clearly show and disclose the two

aggregation devices are switches *E* and *F* (paragraphs *0009, 0014-16, 0038-41,*

0079 & 0095; fig. 2).

Consider claim **13, Lapuh et al** clearly show and disclose IST Hello

messages that the aggregation switches send to one another to verify readiness

for connection and begin for transmission of MAC records (paragraphs *0070-72;*

claim *27*).

Consider claim **19, Lapuh et al** clearly show and disclose an aggregation

switch that comprises a logic unit *220* (a control plane) that establishes

communication connection with certain protocols and IST & SMLT ports that

have links (data planes) to other aggregation switches (paragraphs *0078-79*).

Once links fail, the logic unit *220* re-maps the flows to ensure all packets

preciously destined for the link are forwarded, therefore, ensures enough time, to

the other aggregation switch based on MAC addresses in the packets

(paragraphs *0079-81*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1,

148 USPQ 459 (1966), that are applied for establishing a background for

determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering

patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that

the subject matter of the various claims was commonly owned at the time any

inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a

later invention was made in order for the examiner to consider the applicability of

35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35

U.S.C. 103(a).

Claims **4, 14-18** and **20** are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Lapuh et al** in view of **Goodwin (U.S Pub 2002/0124107 A1)**.

Consider claim **4, Lapuh et al** clearly show and disclose the claimed

invention except **Lapuh et al** did not specifically mention the local instances are

for Internet Protocol networking.

In the same field of endeavor, **Goodwin** disclose a VLAN advertisement

method that if an endstation is running IP (and IPX), and the switch is configured

for an IP and IPX VLAN, the switch will forward IP frames to the IP VLAN

(paragraph *0024*; fig. *1*).

Therefore, it would have been obvious to a person of ordinary skill in the

art at the time the invention was made to incorporate the teachings of a method

to route instances in IP networking as taught by **Goodwin**, in the method of

Lapuh et al, in order to distinguish IP frames from IPX frames in a VLAN.

Consider claim **14, Lapuh et al** clearly show and disclose a first

aggregation switch *E* transmits period IST Hello messages; therefore, a second

message is entailed, to aggregation switch *F* to verify connection (paragraph

0071). However, **Lapuh et al** did not mention the second message comprises IP

address and MAC address of IP routing instances of the first aggregation switch

and VLAN identifiers of a VLAN of IP routing instances participate.

In the same field of endeavor, **Goodwin** disclose that the data received

from hello messages are used to build routing tables, which contain IP

addresses; and VLAN membership (identification) tables, which contain MAC

address information (paragraphs *0041-43, 0053-59*; table *3*).

Therefore, it would have been obvious to a person of ordinary skill in the

art at the time the invention was made to incorporate the teachings of a system

that sends second messages that comprises IP address and MAC address of IP

routing instances of the first aggregation switch and VLAN identifiers of a VLAN

of IP routing instances participate as taught by **Goodwin**, in the system of **Lapuh**

et al, in order to automatically detect new network nodes.

Consider claim **15, Lapuh et al** clearly show and disclose a first

aggregation switch *E* transmits period IST Hello messages; therefore, a second

message is entailed, to aggregation switch *F* to verify connection (paragraph

0071). However, **Lapuh et al** did not mention the second message comprises

IPX network address and MAC address of IPX routing instances of the first

aggregation switch and VLAN identifiers of a VLAN of IPX routing instances

participate.

In the same field of endeavor, **Goodwin** disclose that the invention, *VLAN*

Advertisement Protocol, deploys a technique called *Group Mobility* that

recognizes both IP and IPX frames (paragraph *0024*). Therefore, the invention is

able to extract data received from hello messages that are used to build routing

tables, which contain IPX addresses; and VLAN membership (identification)

tables, which contain MAC address information (paragraphs *0041-43, 0053-59*;

table *3*).

Therefore, it would have been obvious to a person of ordinary skill in the

art at the time the invention was made to incorporate the teachings of a system

that sends second messages that comprises IPX address and MAC address of

IPX routing instances of the first aggregation switch and VLAN identifiers of a

VLAN of IP routing instances participate as taught by **Goodwin**, in the system of

Lapuh et al, in order to automatically detect new network nodes.

Consider claim **16**, and as applied to claim **14** above, **Lapuh et al**, as

modified by **Goodwin**, further disclose a second aggregation switch sends IST

Hello messages that are received from a first aggregation switch after an

expected time interval, therefore, justifies a timer or logic that keeps track of time

embedded in the aggregation switches (paragraphs *0042, 0071-73*).

Consider claim **17**, and as applied to claim **16** above, **Lapuh et al**, as

modified by **Goodwin**, further disclose that after expiration of MAC records

associated with the first aggregation switch (*AS*), the second aggregation switch

(*other AS*) can change the routing table entry (paragraphs *0072-73*).

Consider claim **18**, and as applied to claim **17** above, **Lapuh et al**, as

modified by **Goodwin**, further disclose the aggregation logic unit *220* re-maps

the flows to ensure all packets preciously destined for the link are forwarded,

therefore, justifies the logic unit functions as a hold-up timer, and ensures

enough time to transmit packets to the other aggregation switch (paragraphs

0079-81).

Consider claim **20**, **Lapuh et al** clearly show and disclose the claimed

invention except **Lapuh et al** did not specifically mention the local instances are

for Internet Protocol networking.

In the same field of endeavor, **Goodwin** disclose a VLAN advertisement

system that if an endstation is running IP (and IPX), and the switch is configured

for an IP and IPX VLAN, the switch will forward IP frames to the IP VLAN

(paragraph *0024*; fig. *1*).

Therefore, it would have been obvious to a person of ordinary skill in the

art at the time the invention was made to incorporate the teachings of a system

to route instances in IP networking as taught by **Goodwin**, in the system of

Lapuh et al, in order to distinguish IP frames from IPX frames in a VLAN.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

A.) **Fite, Jr. et al (U.S Patent 6,496,502 B1)** mention a multi-link trunking

method and apparatus utilizing VLAN tags to identify packet origins; MAC

addresses to identify source and destination addresses; and the application of

TCP/IP in the invention.

B.) **Perloff et al (U.S Patent 6,910,149 B2)** mention multi-device link

aggregation (MDLA) that involves at least two devices (e.g. switches) exchanging

protocol data units to detect devices connected to both bodies controlled by

computer-readable medium instructions.

C.) ***Eliminate Single Point of Failure*** (2004) mentions Split Multi-Link

Trunking/Routed Split Multi-Link Trunking advantages and functionalities.

Any inquiry concerning this communication or earlier communications from

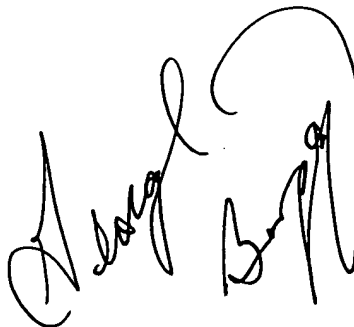the examiner should be directed to Xavier Wong whose telephone number is

(571) 270-1780. The examiner can normally be reached on Monday through Friday 8 am - 5 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or (571) 272-1000.

Xavier Szewai Wong
X.S.W / x.s.w
28th February 2007